# Hartford & Tilton.

## Heddles.

No. 544. Patented Dec. 29. 1837.

Fig 1

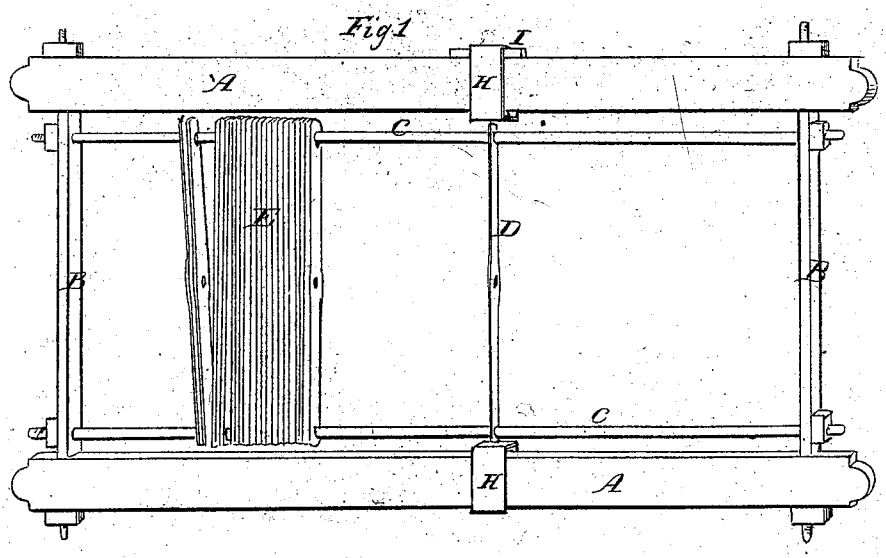
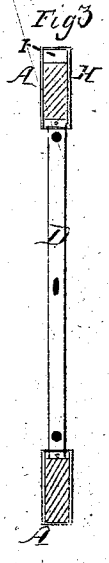



Fig 2


Fig 3



# UNITED STATES PATENT OFFICE.

BENJN. HARTFORD AND W. B. TILTON, OF ENFIELD, NEW HAMPSHIRE.

## CONSTRUCTION OF HEDDLES AND HARNESS FOR WEAVERS.

Specification of Letters Patent No. 544, dated December 29, 1837.

*To all whom it may concern:*

Be it known that we, BENJAMIN HARTFORD and WILLIAM B. TILTON, both of Enfield, county of Grafton, and State of New Hampshire, have invented, constructed, and applied to use a new and useful Improvement in the Mode of Constructing Weavers' Harnesses from Metallic Heddles; and that the following is a full and exact description thereof, reference being had to the annexed drawing, which forms a part of this specification.

Figure 1 represents a view of the harness. This harness consists of a frame supporting two metallic rods C C to which are attached the heddles. The frame is composed of two shafts A A, similar to those in common harnesses resting upon the shoulders of two metallic or wooden girths B, B, and firmly secured thereto by means of nuts or any of the known methods. Within the shafts A, A, and near to them are placed the metallic rods C, C, extending the whole length of the harness and passing through the girths B, B, and secured on their outer sides by means of nuts, and supporting the heddles. The heddles D are fitted closely to the rods C, C, and attached to the clasps H, these clasps passing around the shafts A, A, and susceptible of a rectilinear reciprocating motion so as to adjust the said heddles to the corresponding part of the reed when in operation, (shown at Fig. 3). A key or wedge I passing between the clasps and the shafts on their outer edge, keep the rods C in their proper position, the number of these clasps and corresponding heddles varying in number according to the length of the harness and the strength of the rods C. The heddles E move freely upon the rods C. The holes F near their outer ends are about once and one half the diameter of the rod C, in length and of the same width in order that they may be displaced at pleasure to admit the hand between them for replacing the broken weft said rod being about one eighth of an inch in diameter (shown at Fig. 2). That part of the heddle through which the eye is made has a slight oblique curve to admit the weft to pass more freely, the operation of said harness being the same as those in common use.

What we claim as our invention and wish to secure by Letters Patent is—

1. The above described metallic heddles formed of one entire piece with holes therein to admit the weft and for their support upon the rods as above described. These heddles are made of tin or brass, iron or steel wire that has passed between rollers to give it the required width and thickness or any other metal applicable to said metallic heddles.

2. We claim the heddles marked D with holes fitting closely to the rods on which the heddles are placed and attached to the clasps.

3. We claim the heddle frame constructed substantially as above described.

BENJAMIN HARTFORD.
WM. B. TILTON.

Witnesses:
NATHL. W. WESTGATE,
GEORGE W. CONANT.